



## Plant Variety Protection in Southeast Asia: Perspective of a Breeding Company

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Variety Protection and UPOV 1991**

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*Enhancing The Lives Of Smallholder Farmers*



# About East-West Seed

- Introduced market-oriented plant breeding in Southeast Asia in 1982, with the main focus on developing improved vegetable varieties adapted to local markets and growing conditions
- Established 39 years ago
- Direct presence in 11 markets
- Exports to 60 countries
- 60 crops and 973 varieties offered to farmers



# About East-West Seed

- 20 million farmers served worldwide
- 17 R&D centers in 7 countries
- 84,000 farmers trained in 2020
- Ranked #1 in the Global Access to Seed Index (2016 and 2019)
- Ranked #28 out of 53 in Fortune's annual "Change the World" list
- World Food Prize for Simon Groot in 2019





# We are an integrated seed company...



## R&D



- Plant breeding technologies to improve crops for specific market needs
- Upgrading the quality of vegetables
- 17 R&D stations in 7 countries

## Seed production



- Contract farming creates employment for farmers in rural areas
- Ensures steady supply of high quality seeds

## Seed processing and QA



- State-of-the-art seed processing facility
- ISTA certified QA laboratory
- Seed technology to add value

## Marketing and distribution



- Local distribution network
- Export to regional markets in 60+ countries

## Knowledge Transfer



- Knowledge transfer to farmers on modern practices
- On-field demos
- Peer learning



# East-West Seed Breeding Program

- Resistance to pests and diseases
- Tolerance to adverse conditions
- Postharvest traits
- Good adaptation to “off-season”



**Some examples of EWS  
successful breeding  
innovations to cope with  
adverse conditions**

## Papaya “Somtum 90” (Thailand)

- Good level of resistance to **Papaya Ringspot Virus (PRSV)**
- Suitable for papaya salad (Somtum)
- Very high yield potential
- First papaya hybrid that produces at least 90% hermaphrodite plants



## Tomato “Premium Gold” (Thailand)

- First **Fusarium race 3** resistant tomato for Thailand market
- **Bacterial wilt and Tomato yellow leaf curl virus (TYLCV), and Tomato mosaic virus (TOMV)**
- Good transportability because of its firmness and shelf life





## Bittergourd “Mestisa” (Philippines)

- Very good level of resistance to **Cucurbit aphid borne virus (CABYV)** or locally known as **namamarako (NMK)**
- Very prolific hybrid
- Glossy fruits



- Breeding new varieties of plants requires a huge investment in time and resources
- Breeding companies spend 12 - 15% of their turnover on R&D
- Takes 5 - 10 years to develop a new variety



# Plant Variety Protection

- Promotes creativity and innovation
- Provides incentives for seed companies to invest more in breeding resulting to the continued delivery of new and improved varieties to farmers
- Deters potential infringement







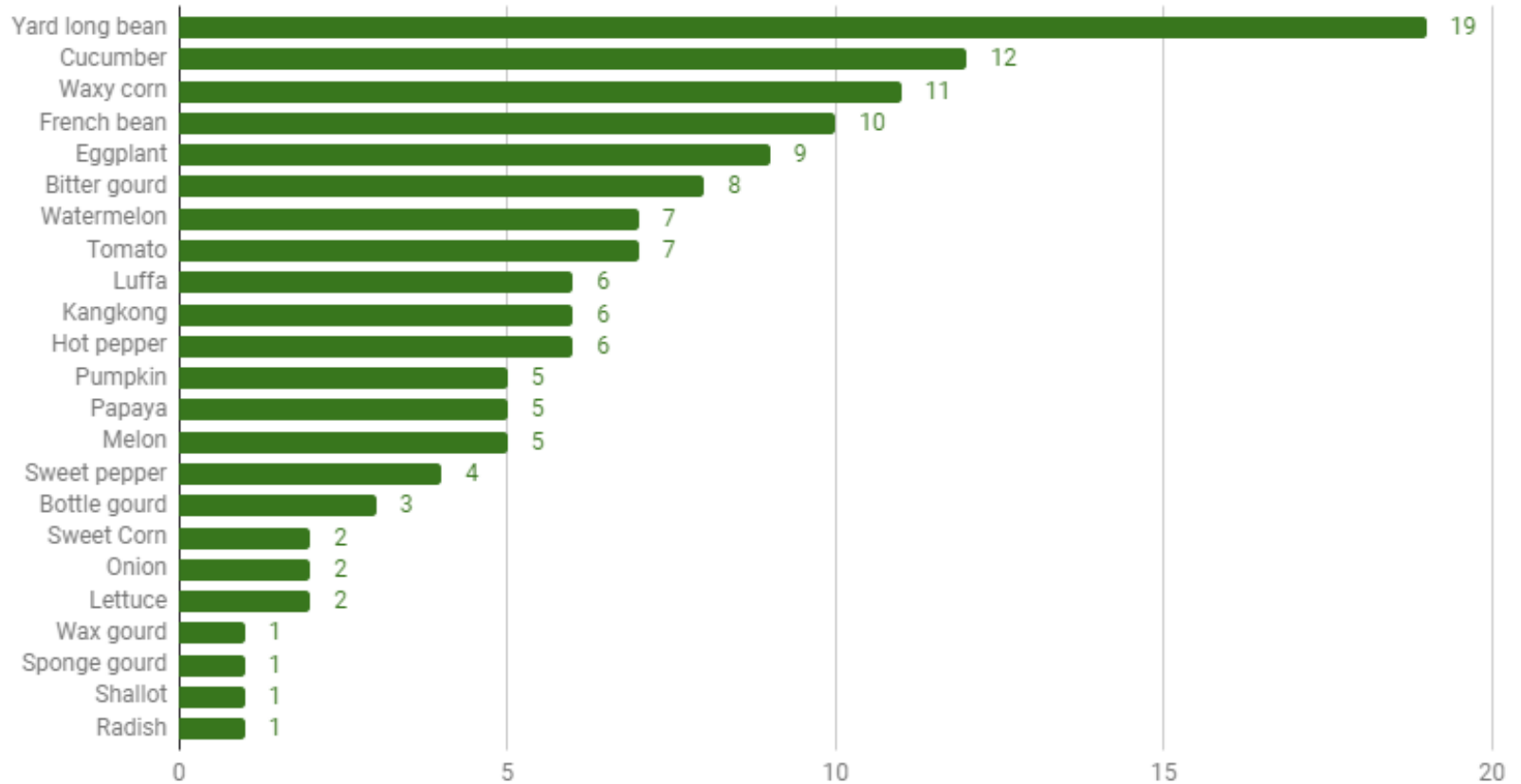
# PVP at EWS

## **PVP registered varieties (as of February 2021):**

- Philippines - 48
- Thailand - 48
- Indonesia - 30
- Vietnam - 7
- USA - 1



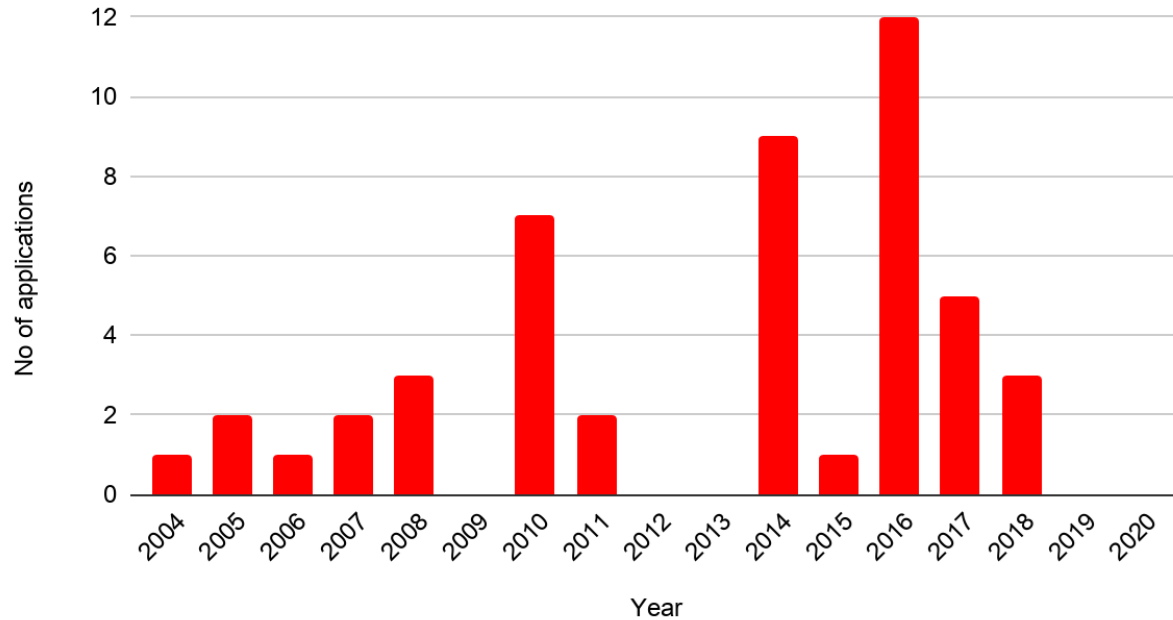
## PVP registered varieties per Crop





# PVP Thailand

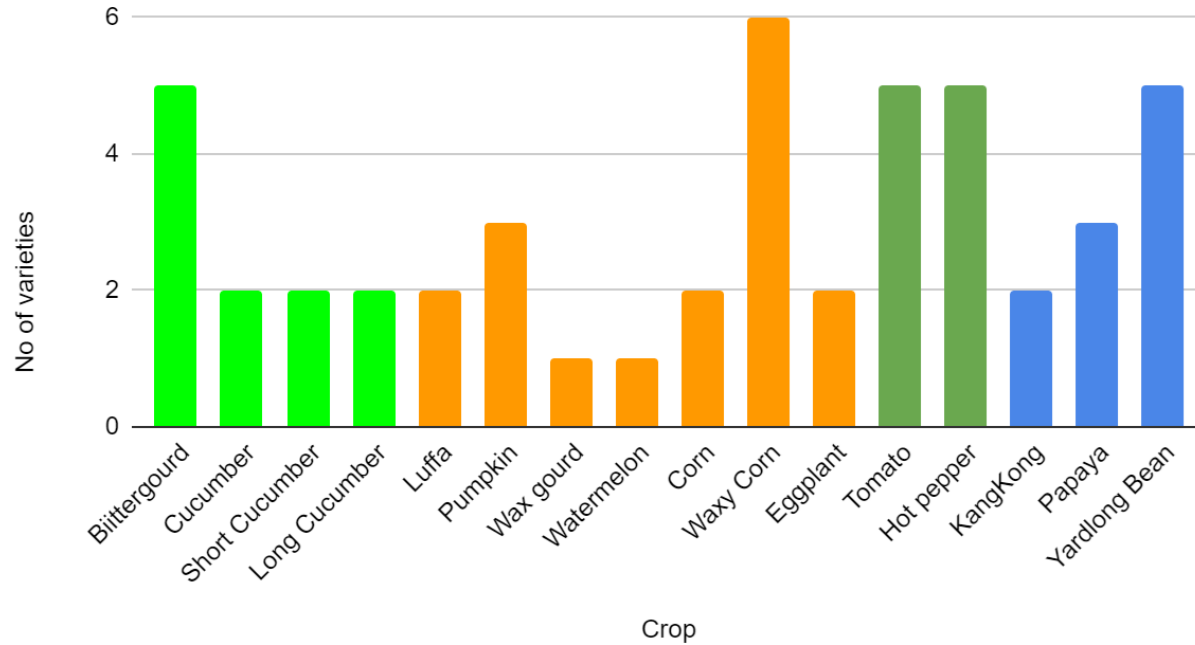
No of applications vs. Year



As of May 2021:

- 48 protected varieties
- 12 applications

## Distribution of varieties per crop

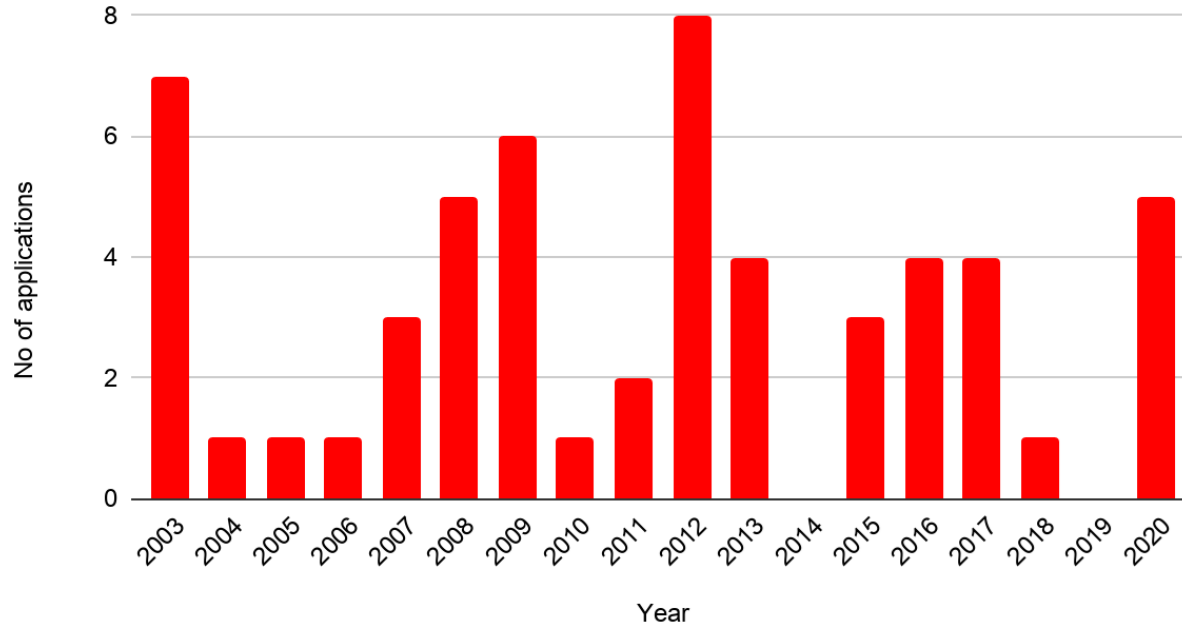


As of May 2021:

- 42 protected varieties
- 6 protected parentals

# PVP Philippines

No of applications vs. Year

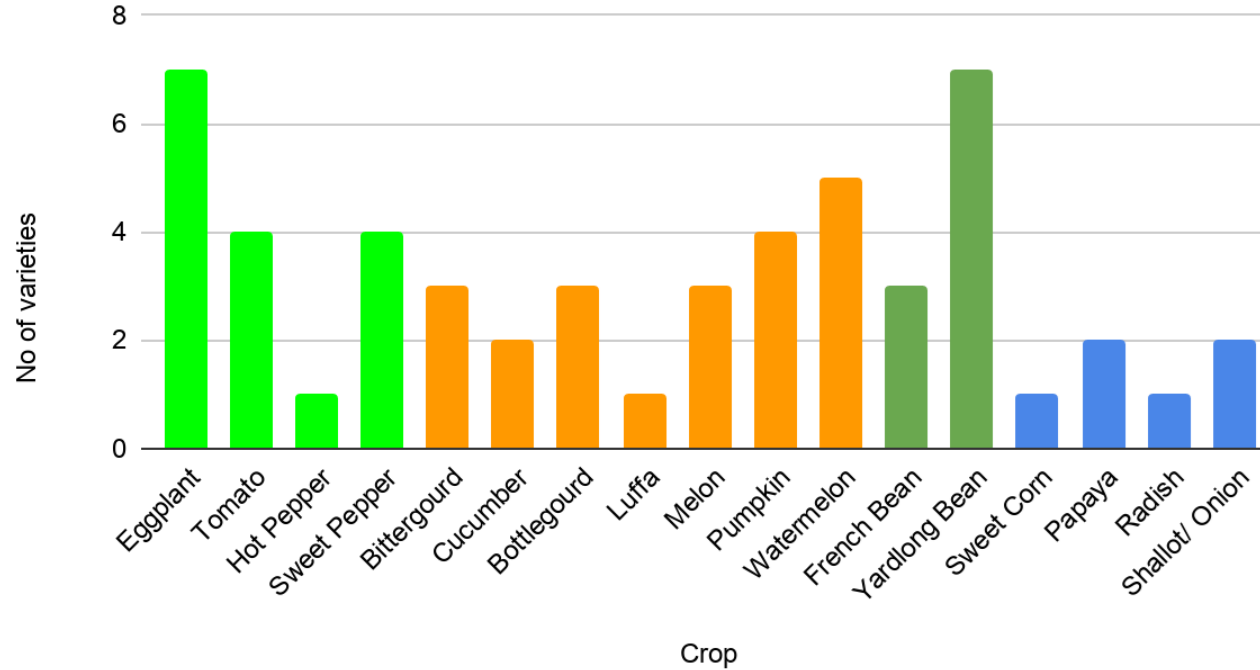


As of Feb 2020:

- 48 protected varieties
- 3- validation/ phased-out
- 5 applications in 2020

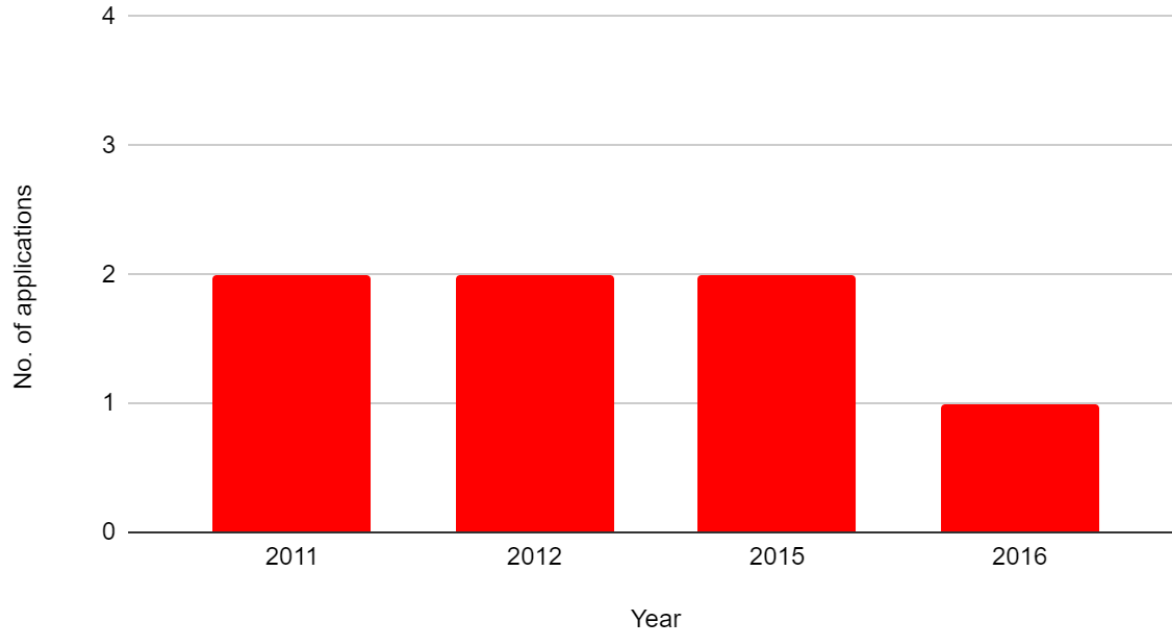


## Distribution of varieties per crop



# PVP Vietnam

No. of applications vs. Year



As of May 2021:

- 7 protected varieties
- 6 applications

# PVP Overview

	Thailand	Indonesia	Philippines	Vietnam	Myanmar
<b>UPOV Member</b>	No	No	No	Yes	No
<b>PVP Law Enactment</b>	1999	2000	2002	2006	2017
<b>Materials applied for PVP</b>	F1, OP, Parental lines	OP, Parentals	F1, OP, Papaya Parental line	F1, OP	OP
<b>Conduct of DUS</b>	Company facility	Company facility	Company facility	Variety testing center	-
<b>Deposit of Sample Seeds</b>	No deposit	No deposit	No deposit	Seed sample deposit required at PVPO	No deposit
<b>Duration of Protection</b>	12 years	20 years	20 years	20 years	20 years

# PVP in the Philippines



- Philippines is not a UPOV member but is one of the countries which have initiated the procedure for acceding to the UPOV convention
- Section 43 d Exceptions to PVP  
*The traditional right of small farmers to save, use, exchange, share or sell their farm produce of a variety protected under this Act, except when a sale is for the purpose of reproduction under a commercial marketing agreement. This provision shall also extend to the exchange and sale of seeds among and between said small farmers: Provided that the small farmers may exchange or sell seeds for reproduction and replanting in their own land.*

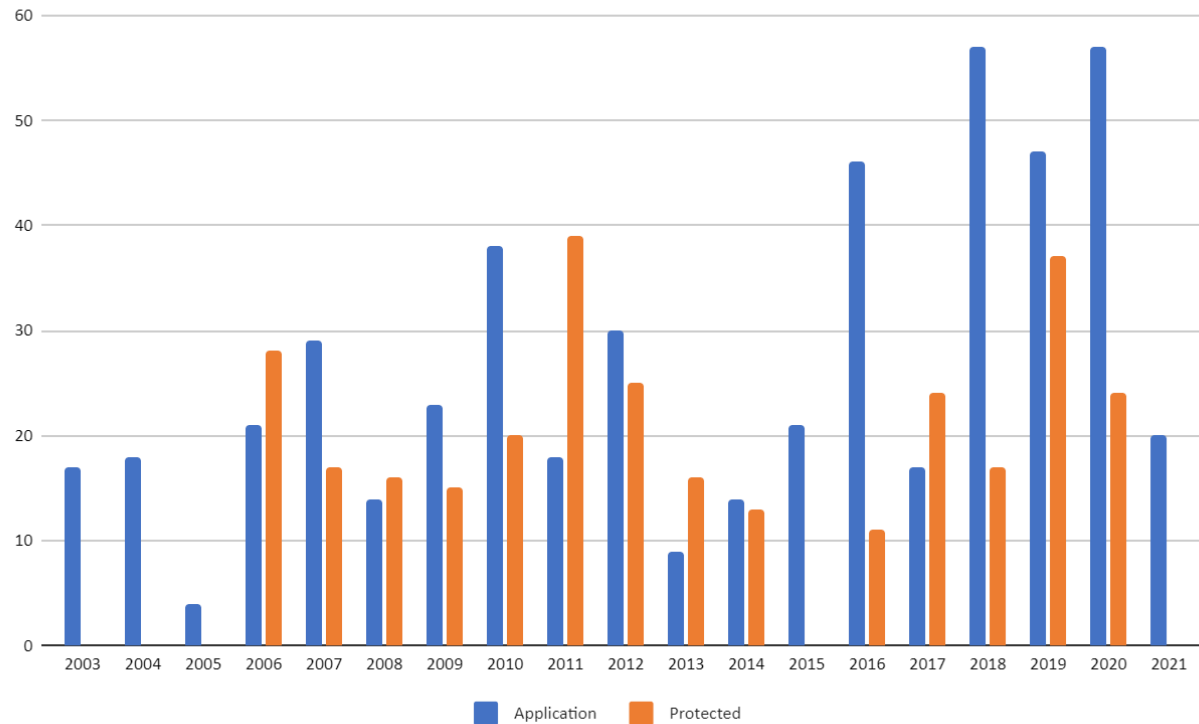


# PVP in the Philippines

- The implementing rules and regulations further state that the right granted to small farmers under this provision does not include the right to sell the protected variety under the trademark or trade name of the holder which is associated with the registered denomination.



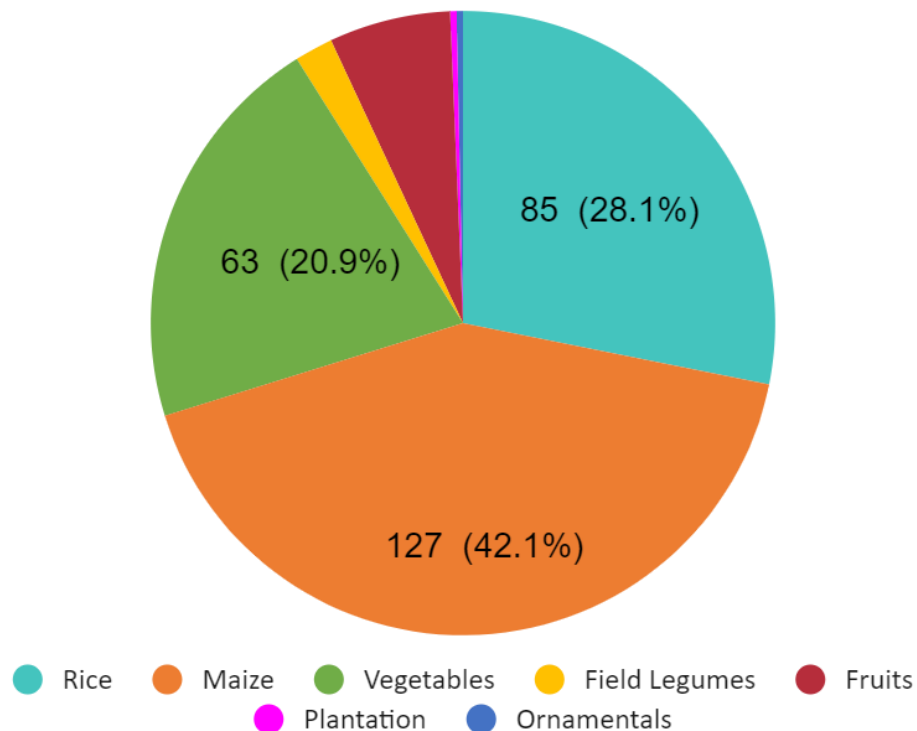
## PVP Statistics



Year	Application	Protected
2003	17	-
2004	18	-
2005	4	-
2006	21	28
2007	29	17
2008	14	16
2009	23	15
2010	38	20
2011	18	39
2012	30	25
2013	9	16
2014	14	13
2015	21	-
2016	46	11
2017	17	24
2018	57	17
2019	47	37
2020	57	24
2021	20	
<b>TOTAL</b>	<b>500</b>	<b>302</b>

Source: Plant Variety Protection Office, Philippines

## Breakdown of Protected Plant Varieties

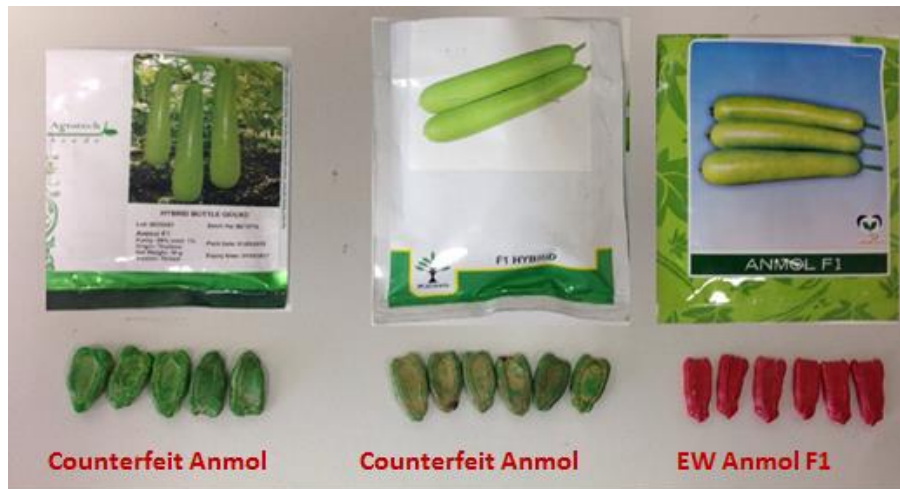


Commodity	No. of Protected
Rice	85
Maize	127
Vegetables	63
Field Legumes	6
Fruits	19
Plantation	1
Ornamentals	1
<b>Total</b>	<b>302</b>

Source: Plant Variety Protection Office, Philippines

# PVP Challenges

- No assurance of protection due to weak enforcement of PVP Law in Asia
  - is the court equipped with judicial expertise to evaluate the cases
  - IP infringement – An EWS Example



*One importer selling the same variety name from two different companies of different origins in Pakistan is evident proof of malpractice.*

*DNA analysis showed that the imitated variety is not the same as EW Anmol F1*

**Legal rules do not deter copycats, physical protection of product is key priority measure to prevent infringement.**



# PVP Challenges

- Not all crops are eligible for PVP application
  - due to the absence of DUS test guidelines the benefit of PVP is delayed or not realized
  - PVP registration is limited to the species notified by the government
- PVP Law in Thailand combines aspects of UPOV and biodiversity (CBD, ITPGRFA) which complicate acquisition and utilization of genetic resources for plant breeding and variety development. There is no clear-cut implementing rules on access and benefit-sharing scheme.
- PVP in Thailand gives only 12 years of protection to vegetable crops. This is too short to recover R&D investment considering that variety development takes 10-15 years; less protection gives little incentive for further R&D.
- India rule requires submission of seeds of parental lines for F1 PVP application along with the corresponding F1 seed samples. This poses threat to seed security of hybrid parental lines.

# PVP Aspirations

- Country judiciary to have expertise in PVP, not only in the registration capacity but also in the capability of investigation and enforcement
- Harmonization of PVP laws and DUS test guidelines
- Creation of separate platform for Access and Benefit Sharing and not as integral part of the country PVP regulation
- PVP-registered varieties must be publicly searchable online with timely and adequate information

# Coping Mechanisms



- Increase awareness of company employees on PBR/PVP
  - PVP orientation webinar organized by EWS participants of the Train the Trainer Program of APSA-UPOV
  - PVP Knowledge Hub - repository of PVP-related information
  - PVP Team in EWS
- Train S&M and other field personnel to detect infringement of EWS varieties
- Work together with national seed associations and APSA to prepare the pathway to UPOV membership



### **Plant Breeders Rights VDO**

<https://web.apsaseed.org/plant-variety-protection>

### **Position Paper on Intellectual Property Rights**

[https://www.apsaseed.org/storage/2020/09/Position%20Paper%20on%20Intellectual%20Property%20Rights\\_83682.pdf](https://www.apsaseed.org/storage/2020/09/Position%20Paper%20on%20Intellectual%20Property%20Rights_83682.pdf)

***“A harmonized IPR system based on the 1991 Act of the UPOV Convention will encourage countries in the Asia and the Pacific region to continuously deliver innovative genetics to farmers and to provide APSA members the incentive to invest more in breeding and innovative technologies.”***



“A good seed  
can change  
the lives of  
millions.”





# THANK YOU

*Enhancing The Lives Of Smallholder Farmers*



# FARMERS

at the heart of everything we do